

***Gerry E. Studds* Stellwagen Bank National Marine Sanctuary Public Outreach and Education Action Plan**

Overview

The *Gerry E. Studds* Stellwagen Bank National Marine Sanctuary (SBNMS) sits at the mouth of Massachusetts Bay, just three miles south of Cape Ann, three miles north of Cape Cod and 25 miles due east of Boston. To the north, west and south of the sanctuary, major population centers support numerous educational institutions, museums and aquariums, tourism facilities, and a host of other locations with the capabilities of providing outreach and education. The sanctuary's size (almost as large as Rhode Island), location and high visitation rate make it a consequential locale in the New England region, with a long-term economic history that has focused primarily on fish resources and whale populations. But despite the long maritime history of the Stellwagen Bank region and the economic significance of the geological feature and its surrounding waters, both the bank and the sanctuary are relatively unknown to the general public. Among the 13 national marine sanctuaries, Stellwagen Bank remains one of the least recognized, despite an annual visitation rate of over one million, the proximity to a population base of several million, and the presence of many marine-focused research institutions and industries in surrounding communities.

This action plan is designed to enhance the outreach and education efforts of the sanctuary by 1) increasing public awareness and understanding of the sanctuary and its resources, and 2) encouraging responsible stewardship. The action plan targets outreach to users who affect the sanctuary directly, supports broad marine education in order to build a constituency for conservation and sanctuary stewardship, and develops an infrastructure that includes affiliate organizations and volunteers. The National Marine Sanctuaries Act (NMSA) mandates that sites be established for the long-term benefit, use and enjoyment of the public. To meet those objectives, NMSA establishes that sites enhance public awareness, understanding, and wise use of the marine environment through public interpretive, educational, and recreational programs. This action plan provides the framework for an outreach and education program to fulfill this mandate at SBNMS. The SBNMS outreach and education plan is consistent with the National Oceanic and Atmospheric Administration (NOAA) Strategic Education Plan and the National Marine Sanctuaries Education Plan.

Description of the Issues

Although the name of the SBNMS may not be common knowledge to the general public, the resources of the sanctuary are well known and activities are abundant in and around the sanctuary's waters. As one of the world's premiere whale watching sites, the sanctuary is visited by hundreds of thousands of wildlife watchers each year. Recreational boaters and fishermen utilize these waters on a regular basis. The area provides a representative sampling of the major seafloor habitat types of the greater Gulf of Maine (GOM), and therefore serves as a convenient study site. The shipping lanes to and from Boston pass through the sanctuary, and through them pass thousands of shipboard passengers and crew each year.

The opportunities for education and outreach about sanctuary living resources, physical setting, maritime history, and other disciplines are vast, but the limitations are also significant. While many people are familiar with the National Parks and National Forests, the Marine Sanctuaries are little known because, in many cases, visitation is difficult, costly, or requires a vessel. The National Marine Sanctuary Program (NMSP) is much smaller in number of sites and size of budget than the other aforementioned systems, which lessens the NMSP's comparative impact and its ability to reach the general public. The sanctuary's proximity to a historically important and major population center (the Boston/Cambridge metropolitan area) provides a natural audience for outreach efforts, but also means that the sanctuary is competing with many other institutions for the attention of residents and visitors alike. Located offshore, the sanctuary is less accessible and therefore less tangible than many other land-based locations and institutions.

Outreach and education has been an on-going effort during the first decade of the sanctuary's history, with a mix of outreach and education products designed for selected audiences, including the general public, user groups, and the K-12 education community. A list of past products and programs can be found in Appendix POE.I. These products and programs were designed to fulfill, in part, the National Marine Sanctuaries Act mandate that requires each sanctuary to "enhance public awareness, understanding, and wise use of the marine environment through public interpretive, educational, and recreational programs."

SBNMS initiated its management plan review public scoping process in 1998, and again in 2002. The process revealed several concerns relative to education and outreach at the SBNMS and identified several critical issues. The primary issues were:

- Low Name Recognition
- Better Information Dissemination to the Public and User Groups through Leveraged Partnerships
- Public Education Through Curriculum Development)

These concerns provided the impetus for the development of an outreach and education action plan which addresses the scoping comments and provides the framework for a management plan to enhance the public outreach and education efforts of the sanctuary by 1) increasing public awareness and understanding of the sanctuary and its resources, and 2) encouraging responsible actions and informed decision-making regarding the sanctuary (stewardship).

Evaluation of Existing Regulations, Guidelines, and Definitions that Pertain to Education and Outreach

NOAA has the responsibility to protect and manage the designated sites that make up the National Marine Sanctuaries (NMS) system. NOAA's Strategic Vision, 2003, states: "We will establish an environmental literacy program to educate present and future generations about the changing Earth and its processes, to inspire our nation's youth to pursue scientific careers, and to improve the public's understanding and appreciation of NOAA's missions. This program will improve the public's understanding of the natural environment and human response to natural hazards, will assist state and local natural resources managers, and will ensure that decision makers have access to, and the knowledge to use, the information they need to reduce significant

human impacts on the environment and to respond to storm warnings and environmental change.” NOAA’s vision for education is “an environmentally literate public and a diverse workforce who will use NOAA’s products and services to make informed decisions that enable responsible action.”

For NOAA, outreach means “providing audiences beyond NOAA with information and materials that increase awareness of NOAA’s science, products, and services, in order to promote environmental stewardship, personal safety, and improved economy.”

For NOAA, education means:

“a process of providing knowledge, training, or professional development to a particular audience on topics relevant to the world’s atmosphere, climate, oceans and coastal ecosystems. There are many possible audiences, such as students, teachers, NOAA employees, and the general public. NOAA educational activities are based on NOAA science; systematic in design with clear goals, objectives and measurable outcomes; aligned, where appropriate, with state or national education standards; and designed to facilitate evaluation by a third party.”

For NOAA, environmental literacy means:

“having a fundamental understanding of the systems of the natural world and the relationships and interactions between the living and non-living environment. An environmentally literate person has acquired the necessary skills and expertise and has developed attitudes, motivations, and commitments to make informed decisions and to take responsible action.”

Under the NOAA plan for education, six strategies are addressed:

1. Integrate NOAA sciences into high-quality educational materials;
2. Improve access to NOAA educational resources;
3. Support educator professional development programs to improve understanding and use of NOAA sciences;
4. Promote participation in NOAA-related sciences and careers, particularly by members of underrepresented groups;
5. Leverage partnerships to enhance formal and informal environmental science education; and
6. Build capability within NOAA for educational excellence.

The NMSA (16 USC § 1431, *et seq.*) provides authority to the NMS “for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities.” In addition, the NMSA directs the sanctuary to “create models of, and incentives for, ways to conserve and manage these areas, including the application of innovative management techniques” and “to enhance public awareness, understanding, appreciation, and wide and sustainable use of the marine environment, and the natural, historical, cultural, and archaeological resources...” This mandate requires that

the SBNMS interpret and manage its natural and cultural resources in a fashion that protects the resources while allowing for compatible and sustainable public use of the resources. All ten of the present sanctuary regulations, and any future regulations, are pertinent to this outreach and education action plan as they must be interpreted and communicated to the public.

The NMSP's education mission is "to promote public understanding of our NMS and to empower citizens with the necessary knowledge to make informed decisions that lead to the responsible stewardship of aquatic ecosystems."

NMSP education goals include:

1. Provide leadership for the future of national and international marine science education;
2. Be proactive in planning and implementing educational programs at each site and at the national level;
3. Build and sustain an effective and efficient national education team;
4. Develop a network of interpretive facilities that will heighten visitors' experiences and convey sanctuary messages (NMSP will identify priorities and allocate resources based on those priorities for interpretive and educational capital facilities);
5. Strategically build and maintain effective connections with the educational community;
6. Equip the education team with the appropriate tools and training necessary to ensure its effectiveness;
7. Recognize the significance of education in the program, and provide and maintain a level of funding that enables educators to carry out the tasks outlined in the plan; and
8. Create communication strategies to protect the nation's marine resources and serve its geographically and culturally diverse communities.

The U.S. Commission on Ocean Policy preliminary report issued in 2004 includes an entire section (Part III) on "Ocean Stewardship: The Importance of Education and Public Awareness." The Commission recommended that "Strengthening the nation's awareness of the importance of the oceans requires a heightened focus on the marine environment, through both formal and informal education efforts." The Commission recommends a national education office under a National Ocean Council to "provide a national focal point to improve ocean-related education efforts, facilitate coordination of ocean-related education among federal agencies, and enhance collaboration among the research community, state and local education authorities, and the private sector." Until such an office is created, federal agencies undertaking ocean-related education (such as the sanctuary), have the responsibility of continuing that effort to the best of their abilities. The Commission further recommends, "NOAA, National Science Foundation (NSF), Office of Naval Research (ONR), and National Aeronautics and Space Administration (NASA) should strengthen their support of both formal and informal ocean-related education, including appropriate assessments and evaluation of these efforts."

In addition to the U.S. Commission on Ocean Policy, a National Research Council (NRC) report from the Committee on Exploration of the Seas reported the need for outreach, education, and capacity building. Although the Committee's findings were geared towards national and international exploration programs, they can be extrapolated for the types of missions that happen on a more local scale. The Exploration Committee reported, "Strong education and

outreach programs with global applications should be incorporated into any exploration program to bring new discoveries to the public, enfranchise the global community in ocean exploration, and develop and foster collaborations among scientists and educators in ocean exploration.”

While there are numerous guidelines and recommendations on outreach and education, there are relatively few regulations in these areas that directly affect federal agencies. The ones that do have direct application to the sanctuary include the Government Printing Act, which sets out specific rules for printed materials developed by government agencies, and the Americans with Disabilities Act, which requires accommodations in exhibits, recorded materials, and web sites for those citizens with handicaps.

Addressing the Issues – Strategies for this Action Plan

Media representatives, public relations specialists, exhibit designers, interpreters, educators from the K-12 community and institutions of higher learning, informal educators and other individuals who undertake outreach and education tasks provided regional input for the public outreach and education strategies in this action plan. While addressing sanctuary specific public outreach and education needs, this plan will also fulfill the NOAA Strategic Education Plan and the NMS Education Plan.

There are nine strategies in the Public Outreach and Education (POE) Action Plan:

- POE.1 - Establish an Outreach Campaign to the General Public to Increase Sanctuary Visibility, Awareness and Stewardship
- POE.2 - Develop and Implement an Interpretive Facilities and Signage Program
- POE.3 - Develop and Implement Public Outreach Programs for User Groups, including whale watch industry, commercial fishing community, recreational boaters, recreational fishermen, cruise industry, divers, and scientists
- POE.4 - Develop and Implement a Sanctuary-Certified Interpreter Program
- POE.5 - Establish a Media Education and Outreach Program
- POE.6 - Leverage Partnerships to Build Capacity for Formal and Informal Education and Public Outreach
- POE.7 - Develop a K-12 Education Program
- POE.8 - Develop an Undergraduate and Graduate Education Program
- POE.9 - Develop an Adult Education Program

Each strategy is detailed below.

STRATEGY POE.1 – ESTABLISH OUTREACH CAMPAIGNS TO THE GENERAL PUBLIC TO INCREASE SANCTUARY VISIBILITY, AWARENESS AND STEWARDSHIP

Objective: To raise general awareness of the SBNMS among the general public and to create a constituency for sanctuary stewardship.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch.

Strategy Summary

Although over a million individuals travel into the sanctuary each year, many do not recognize that they are traveling through a federal marine protected area. The many millions of other individuals who do not access the sanctuary but are located in neighboring communities have an even poorer awareness of the sanctuary. The large number of competing interests and parks/tourist destinations/facilities in the region present tough competition for a site that is offshore and out-of-sight. This strategy is designed to build awareness among the general public and create a sense of ownership and stewardship that may lead to personal involvement.

Activities (4)

(1.1) Assess the level of public awareness of the sanctuary and the communication tools that have proven to be most productive to date for the sanctuary and similar sites.

Status: Phase I.

Potential Partners: Outreach Panel and Sanctuary Advisory Council (SAC).

(1.2) Produce public outreach products and programs that best address sanctuary visibility needs. Build partnerships to assist in the selection and development of a public outreach campaign, including creation of outreach products and fund-raising. Assess the effectiveness of the campaign. Such programs might include such efforts as: an annual Henry Stellwagen marine management award, a Stellwagen Bank Cup for a sailboat race, a Stellwagen Bank Fishing Derby, a SBNMS Photo Contest, and/or a Sanctuary Juried Art Exhibition.

Status: Phase I and on-going.

Potential Partners: SAC, Outreach Panel, and NMS Communications Branch.

(1.3) Produce annual newsletter, and other periodic publications to provide information to the general public, legislators, and user groups.

Status: Phase I and on-going.

Potential Partners: N/A.

(1.4) Develop a website that provides a central location for all information about the sanctuary and links to affiliated organizations. The web site provides “one-stop shopping” for any information need from any user group or member of the general public.

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch.

STRATEGY POE.2 – DEVELOP AND IMPLEMENT AN INTERPRETIVE FACILITIES AND SIGNAGE PROGRAM

Objective: To raise general awareness of the SBNMS among the general public; to provide distribution points for sanctuary education and outreach materials.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch.

Strategy Summary

Visitor centers, exhibits at museums, aquariums and other venues, and signage at selected locations all provide ideal ways for the sanctuary to reach large sectors of the general public to raise visibility. These locations are distribution points for sanctuary education and outreach materials, and provide a non-intimidating environment for the communication of sanctuary messages.

Activities (5)

***(2.1)** Develop a long-range facilities plan with headquarters that prioritizes possible interpretive centers and articulates federal funding needs.*

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch.

***(2.2)** Develop visitor centers/exhibits in gateway cities, including but not limited to Gloucester, Boston and Provincetown, to heighten sanctuary visibility and to encourage responsible stewardship by those individuals traveling to the sanctuary.*

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch.

***(2.3)** Contribute exhibits and signage to regional public outreach and education centers, including but not limited to aquariums, science museums, maritime heritage facilities, and art institutions, to raise sanctuary visibility.*

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch.

***(2.4)** Develop and distribute appropriate exhibitry and signage to the whale watch fleet, including information relating to vessel speed, approach techniques, sanctuary boundaries, and marine life, to heighten the educational experience for passengers and to encourage sanctuary stewardship by the crew.*

Status: Phase I and on-going.

Potential Partners: NOAA Fisheries Protected Resources Division.

(2.5) *Develop and install (if appropriate) signage at sanctuary departure points, including, but not limited to, marinas, boat ramps, cruise ship terminals, fuel docks, and pumping stations, to raise awareness of the sanctuary and protect its resources, particularly water quality and marine mammals.*

Status: Phase II and on-going.

Potential Partners: NMS Communications Branch; appropriate partners (International Wildlife Coalition (IWC) – “See a Spout” campaign, International Fund for Animal Welfare (IFAW), NOAA Fisheries, Massachusetts Office of Coastal Zone Management (MACZM).

STRATEGY POE.3 – DEVELOP AND IMPLEMENT PUBLIC OUTREACH PROGRAMS FOR USER GROUPS

Objective: To raise general awareness of the SBNMS, educate users to become better stewards of the sanctuary, and provide a mechanism to exchange information between user groups and the sanctuary.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch, user groups.

Strategy Summary

While some user groups recognize the name of the sanctuary, there are still many individuals who are unfamiliar with the name, purpose, resources and issues of the sanctuary. In addition, scoping comments cited the need for better communication between the sanctuary and user groups. Because of the diversity of users and the range of informational needs, each user group must have an individually tailored education and outreach program. In addition to sanctuary visibility, communication objectives include increased stewardship, such as marine mammal and boater safety, water quality protection, and maritime heritage conservation. The products and programs developed for these user groups will be guided through consultation with the SAC and an Outreach Panel consisting of outreach specialists from the specified user groups, as well as experts in public relations, advertising, and marketing. User groups include, but are not limited to, the whale watch industry, commercial fishing, recreational fishing, recreational boating, divers, cruise line industry, other federal agencies, and researchers. A major intent of this strategy is to open lines of communication between various user groups and the sanctuary, and to involve these groups in the design, production and implementation of these outreach and education programs. A matrix of user groups and outreach/education objectives is attached as Appendix POE.II.

Activities (4)

(3.1) *Create an outreach panel consisting of outreach specialists from the various user groups, as well as experts in public relations, advertising, and marketing. Meet on an as-needed basis, and provide electronic communication between sanctuary and outreach experts.*

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch, user group representatives.

(3.2) *Assess needs of the user groups and sanctuary to raise sanctuary visibility and increase sanctuary stewardship.*

Status: Phase I and on-going.

Potential Partners: SAC, Outreach Panel, and NMS Communications Branch.

(3.3) *Develop products and programs, with partners where appropriate, that address the informational needs of the various user groups, including but not limited to the following (messages will be determined in consultation with sanctuary staff, user group representatives and partners):*

- *Whale watch Industry – boat signage, naturalist training, passenger handouts;*
- *Commercial Fishing – trade show workshops, trade show exhibits, guest speakers at meetings, articles in association publications;*
- *Party/Charter Fishing Boats – passenger handouts, boat signage, speakers at meetings, info in state saltwater fishing guide*
- *Recreational Fishing – articles in fishing magazines, speakers at meetings, handouts at fishing supply/bait shops;*
- *Recreational Boaters – boat show exhibits, signage at marinas and fuel docks, speakers at boat clubs;*
- *Divers – programs at dive clubs, handouts at dive shops, photo contests;*
- *Cruise Industry – exhibits at terminals, signage on boats, handouts for passengers, speakers or video programs for passengers;*
- *Scientists and Researchers – on-line permit application, on-line databases, science forums, web index to sanctuary research.*

Status: Phase I and on-going.

Potential Partners: User groups and education partners.

(3.4) *Assess the effectiveness of the products and programs developed for the respective user groups. Make appropriate changes where applicable.*

Status: Phase II and on-going.

Potential Partners: Outreach Panel, user group representatives, education partners.

STRATEGY POE.4 – DEVELOP AND IMPLEMENT A SANCTUARY-CERTIFIED INTERPRETER PROGRAM

Objective: To raise general awareness of the SBNMS among the whale watch community and the general public through the development of a corps of outreach specialists knowledgeable about sanctuary resources, uses, issues and desired behaviors near marine mammals.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch, education partners and whale watch community.

Strategy Summary

A market survey undertaken by Boston University Graduate School of Communications for the sanctuary several years ago demonstrated that potential whale watch passengers preferred the idea of having a sanctuary-certified naturalist on board their vessel over an unspecified “expert.” The opportunity to visit a NMS also received a more favorable response than just “going to where the whales are.” The cachet of sanctuary-certified naturalists on the whale watch boats provides market value for the participating companies, while providing the sanctuary with a corps of trained experts who can provide sanctuary outreach to a large number of the public. Similarly, a trained group of volunteer docents can reach vast numbers of the public that the sanctuary cannot now contact due to staffing constraints. The development of such a program will require the cooperation and involvement of education partners and the whale watch industry in project design and implementation.

Activities (5)

(4.1) Develop criteria for a whale watch naturalist certification program in conjunction with the development of a national interpreter certification program. Build in a National Association of Interpretation component to encourage excellence in presentation and work with the whale watch industry to assess naturalist education needs.

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch, National Association of Interpretation.

(4.2) Develop criteria for a sanctuary volunteer docent program that coordinates with the whale watch naturalist certification program. The docent program will provide a corps of knowledgeable volunteers who will represent the sanctuary at public events and other outreach functions.

Status: Phase II.

Potential Partners: N/A.

(4.3) Develop a full semester college course on sanctuary resources and management that provides the background information necessary for the whale watch naturalist and docent certifications. Make classes available via digital video disk (DVD) and video home systems (VHS) tapes for distance learning purposes.

Status: Phase I and on-going.

Potential Partners: Education partners, including but not limited to, Cape Cod Museum of Natural History, NOAA Fisheries, Center for Coastal Studies, New England Aquarium (NEAQ), IFAW.

(4.4) Develop a website that provides all background information in the whale watch naturalist and docent education program. Update the site as necessary to keep certified individuals updated on any changes and provide the latest information to new learners.

Status: Phase II and on-going.

Potential Partners: NMS Communications Branch, education partners.

(4.5) Develop and implement information update and rewards programs for certified interpreters and docents.

Status: Phase II and on-going.

Potential Partners: NMS Communications Branch, education partners.

STRATEGY POE.5 – ESTABLISH A MEDIA EDUCATION AND OUTREACH PROGRAM

Objective: To raise general awareness of the SBNMS among media representatives and to provide sanctuary-related materials on a timely basis for media use.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch.

Strategy Summary

Print and electronic media provide an ideal way for the sanctuary to reach vast numbers of the general public, as well as targeted user groups through specific trade publications. Through the use of press releases, media advisories, op-ed articles, web sites, still images, video footage, editorial board visits, media tours, and other products and programs, SBNMS will provide information to the media on sanctuary resources and resource protection programs.

Activities (6)

(5.1) Develop a long-term sanctuary media plan, and event-driven media plans when appropriate, including messages and talking points. The extent of each plan will be determined on a case-by-case basis and in consultation with NOAA and NMSP.

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch

(5.2) Develop and update a media list of regional and national print, radio, and television outlets, including phone, fax, and e-mail addresses. Identify media contacts with interests in sanctuary-related stories.

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch

(5.3) Prepare advisories, press releases and articles on a timely basis for distribution to the media; produce and distribute still and video images when appropriate; organize press conferences when appropriate; work with partners when applicable.

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch; NOAA Public Affairs.

(5.4) Develop a web-based photo and map gallery for media use (may also be accessed by educators and other members of the general public).

Status: Phase II and on-going.

Potential Partners: N/A.

(5.5) Organize media visits to the sanctuary, including research cruises and site visits, and staff visits to media outlets, including editorial boards, local radio talk shows, and community cable television, through a scheduled sanctuary speakers bureau.

Status: Phase II and on-going.

Potential Partners: NMS Communications Branch; NOAA Public Affairs.

(5.6) Research potential themes and slogans that are likely to be most successful in attracting media and reader attention. Incorporate these findings into media planning (5.1) and all written/audio-visual (a-v) materials (see Activity 5.3).

Status: Phase II and on-going.

Potential Partners: NMS Communications Branch; NOAA Public Affairs.

STRATEGY POE.6 – LEVERAGE PARTNERSHIPS TO BUILD CAPACITY FOR FORMAL AND INFORMAL EDUCATION AND PUBLIC OUTREACH

Objective: To build capacity in the sanctuary's education and outreach program to raise general awareness of the SBNMS and increase sanctuary stewardship.

Implementation: SBNMS Education and Outreach Program.

Strategy Summary

Leveraged partnerships can help the sanctuary build capacity for formal and informal education programs, as well as public outreach campaigns. The additional funding and/or staffing and/or resources provided by the partnership may be critical to the success of the program, its ability to reach its audience and its continued existence over the years. Leveraged partnerships require that all parties find value in the results, and require care in product/program design and implementation. These partnerships can be part of many, if not all, of the other Strategies in this Action Plan. This strategy mirrors a strategy of the NMS Education Plan which calls for the National Marine Sanctuaries to “strategically build and maintain effective connections with the educational community” with one objective focusing on NOAA partnerships and others focusing on national/international organizations, regional/local organizations, and formalizing the processes for establishing memoranda of understanding (MOU), memoranda of agreement (MOA), grants and procurements.

Activities (3)

(6.1) *Develop criteria for the 1) selection of, and 2) types of contributions desired of/required of SBNMS partners for outreach and education, including other NOAA offices, other government agencies, and private institutions and organizations.*

Status: Phase I.

Potential Partners: Outreach Panel and SAC.

(6.2) *Assess the need for partners for sanctuary products/programs, especially in areas where sanctuary funding and staffing levels would prevent achievement of project goal .*

Status: Phase I.

Potential Partners: Outreach Panel and SAC.

(6.3) *Develop a plan for establishing education and outreach partnerships, which identifies the types of programs and the objectives that must be achieved through partnerships. Formalize the*

process for establishing MOU, MOA, grants and procurements and formalize established partnerships.

Status: Phase I

Potential Partners: Outreach Panel and SAC

STRATEGY POE.7 – DEVELOP A K-12 EDUCATION PROGRAM

Objective: To raise general awareness of the SBNMS among educators and students, provide sanctuary-related professional development opportunities for educators, and develop appropriate sanctuary-related materials to complement and supplement curricula now used by schools and home-schoolers, with particular focus on sanctuary science and careers.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch

Strategy Summary

The SBNMS education effort will address outstanding needs of regional educators for information pertaining to local waters. As was recommended in the U.S. Commission on Ocean Policy Report, “Ocean-based professional development for teachers, scientifically sound ocean-based curricular materials, and up-to-date information for the public are just a few of the educational concerns that will depend on strong, vibrant connections between researchers and educators.” The sanctuary’s location in proximity to major population centers, educational institutions and research facilities, makes it the ideal living laboratory for marine science and maritime studies. The sanctuary can serve as a case study to demonstrate fundamental concepts in a diverse array of educational disciplines (also a recommendation of the Commission). The NOAA education objective of support for “educator professional development programs to improve understanding and use of NOAA sciences” can be addressed in carefully crafted workshop programs designed in partnership with other institutions and agencies. The sanctuary will coordinate efforts with other NOAA agencies, and work with regional marine educators organizations and other education specialists. All educational materials produced by the sanctuary should specifically address how the content connects with learning standards in the various disciplines (on state and national levels).

Activities (5)

(7.1) *Develop an education panel of teachers in grades K-12, science supervisors, school administrators, informal educators, home schoolers and other interested parties to guide the sanctuary staff in education needs and trends.*

Status: Phase I.

Potential Partners: SAC.

(7.2) Assess needs of the educational community for sanctuary-related materials and programs, and develop curricular products and programs as deemed appropriate to further NOAA and sanctuary goals for heightened understanding of sanctuary resources, uses, science, management issues and marine careers. Link materials to state and national standards wherever possible, and provide a mechanism for assessment. Products and programs may include, but are not limited to, image libraries, web-based technical information, activity lesson plans that supplement textbook information and marine education programs like “The Voyage of the Mimi” and Geographic Information Systems (GIS) data. The sanctuary should explore the possibility of hands-on opportunities such as service learning projects, volunteer opportunities, student leadership conferences, field programs, career days, etc.

Status: Phase II.

Potential Partners: SBNMS Education Panel.

(7.3) Provide educator workshops and regional and national levels addressing topics that focus on National Program Priorities, National Education Mini-Grants, and Ocean Exploration, including but not limited to Remotely Operated Vehicles (ROVs), GIS, and maritime heritage resources.

Status: Phase I and on-going.

Potential Partners: Marine Advanced Technology Education Center (MATE), Marine Technology Society-New England (MTS-NE), National Geographic Society (NGS), Woods Hole Oceanographic Institute (WHOI), Massachusetts Marine Educators (MME).

(7.4) Provide creative programs for student participation that encourage discovery learning about sanctuary resources, uses and programs, including but not limited to poster/art contests, poetry contests, photo contests, debates, junior naturalist program, and student-at-sea research.

Status: Phase I and on-going.

Potential Partners: MME, National Undersea Research Center–University of Connecticut (NURC–UConn).

(7.5) Incorporate all education products and programs on the sanctuary website and provide additional background materials for student and general public research and review.

Status: Phase I and on-going.

Potential Partners: NMS Communications Branch.

STRATEGY POE.8 – DEVELOP AN UNDERGRADUATE AND GRADUATE EDUCATION PROGRAM

Objective: To advance efforts in sanctuary research, education and resource protection, to promote NOAA and sanctuary science and careers, and to raise the level of awareness of the SBNMS among educators and students by providing appropriate sanctuary-related materials to complement and supplement curricula now used in institutions of higher learning.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch, education and research partners.

Strategy Summary

Graduate and undergraduate students are tomorrow's scientists, educators, reporters, policy analysts and other professionals. By providing access to information and opportunities for work and study in and about the sanctuary, SBNMS furthers all of NOAA's education goals, including the integration of NOAA sciences into high-quality educational materials and the promotion of participation in NOAA-related sciences and careers, particularly by members of underrepresented groups. Activities in this area can be leveraged partnerships that can enhance formal and informal environmental science education, another NOAA goal. Concomitantly, as students work in the sanctuary, the sanctuary gains new insights and benefits from these additional staffing efforts.

Activities (5)

(8.1) *Support undergraduate and graduate research on sanctuary research cruises and independent projects using both sanctuary and outside resources.*

Status: Phase I.

Potential Partners: NURC-UConn, other institutions of higher learning, SBNMS education panel.

(8.2) *Fund summer internships for education, outreach, marine management, maritime heritage, GIS, and other sanctuary-related disciplines.*

Status: Phase I.

Potential Partners: SBNMS Education Panel, National Marine Sanctuary Foundation (NMSF).

(8.3) *Investigate the potential for web-based and or remote-learning courses on the sanctuary, its resources, and marine management issues. Begin development of any courses that can reach large segments of future user groups (e.g., educators, naturalists, ship captains, etc.).*

Status: Phase II.

Potential Partners: SBNMS education panel.

(8.4) *Develop sanctuary components for pre-service teacher education courses that incorporate information about local marine resources and resource management issues.*

Status: Phase II.

Potential Partners: MME, SBNMS education panel.

(8.5) *Provide speakers and/or background information on the sanctuary, its resources and management issues to marine management, marine science, marine trades and maritime archaeology courses.*

Status: Phase I and on-going.

Potential Partners: SBNMS education panel.

STRATEGY POE.9 – DEVELOP AN ADULT EDUCATION PROGRAM

Objective: To raise general awareness of the sanctuary among the members of the adult population interested in furthering their education, to provide appropriate sanctuary-related materials to complement and supplement on-going programs, and to promote NOAA and sanctuary science and careers.

Implementation: SBNMS Education and Outreach Program, NMS Communications Branch, education and research partners.

Strategy Summary

There is a large segment of the adult population that participates in continuing education programs, both locally (often through on-site lectures and courses) and nationally (via the web). This audience of educated adults is a potential source for sanctuary volunteers and donors. The development of education programs to meet the needs of adult learners meets many of the public outreach goals expressed by the Ocean Commission, NRC, the NMSP and NOAA, and provides an ideal area for leveraged partnerships with regional educational institutions, museums, aquariums, and other organizations offering such types of programming.

Activities (4)

(9.1) *Develop and implement a series of special lectures on sanctuary issues and resources, including, but not limited to: sea birds, whales, boating safety (See a Spout), fishing issues, fish identification, marine management.*

Status: Phase I and on-going.

Potential Partners: Cape Cod Museum of Natural History, NEAQ, IWC, and others.

(9.2) Develop education materials linked to sanctuary research cruises for distribution via the sanctuary web site and other outreach avenues including telepresence.

Status: Phase I and on-going.

Potential Partners: NMS communications branch.

(9.3) Investigate the potential for associations with adult education programs such as Elder Hostel and Earthwatch, and coordinate partnerships where deemed feasible.

Status: Phase II.

Potential Partners: SBNMS education panel.

(9.4) Recruit and train a corps of sanctuary docents through classes and web-based education programs (see Activity 4.2).

Status: Phase II.

Potential Partners: N/A.

APPENDICES
(PUBLIC OUTREACH AND EDUCATION)

APPENDIX POE.I – Overview of Outreach and Education Products 1994-2004

Printed Materials

- Stellwagen Soundings – annual newspaper (bulk distribution) 4-color, 8-page, tabloid, 1995-present
- Stellwagen Banknotes – periodic newsletter (limited run) b&w, 8-page, 8.5x11 (3x/yr), 2002-present
- State of the Sanctuary Report (2002)
- 12 Top Questions Answered about the SBNMS – brochure (1994)
- SBNMS Rack Card – brochure (1995 - present)
- Provincetown Exhibit Rack Card – brochure (2001-present)
- Whale watch Guidelines – brochure (with NOAA Fisheries) (2001)
- Whale Safety Sticker (with IFAW) – 2001

Posters

- Stellwagen Bank Map (image from USGS) – 1995, 1998
- Humpback Whale Feeding (with National Marine Sanctuaries Foundation (NMSF)) – 2002
- Steamship Portland: Then and Now (with NURC–UConn) – 2003
- Exploring the Deep Boulder Reefs (with NURC–UConn) – 2003
- Whale watch Guidelines (with NOAA Fisheries) – 2004

Exhibits

- Provincetown Kiosk (with CCS) – 1995-present
- Provincetown Exhibit (with CCS and Creative Resources Group (CRG)) – 2001-present
- Gloucester Maritime Heritage Center (temporary exhibit and touch-screen unit) – 2004
- Traveling Photo Exhibit (various photographers) – placed at Senate Office Building on Capitol Hill Washington DC; Independence Mall; NEAQ; Salem National Historic Site Visitor Center; Cape Cod Museum of Natural History – 1997-2000
- National Aquarium in Washington DC (tank with photos – with NMSF) – 2003-present
- NEAQ (signs, Immersive Theater show – Storm Over Stellwagen, cold-water tanks now in development) – 1997-present
- Scituate Maritime and Irish Mossing Museum (Shipwreck exhibit) – 2003-present
- Woods Hole NOAA Fisheries Aquarium – signs, photos, and tanks with sanctuary species; distribution of sanctuary literature – 2000-present
- Portable Pop-Up Exhibit – 1996-present

Public Events – General Public

- SBNMS Celebration and Great Annual Fish Count in Gloucester – 2002-present
- Marshfield Fair 2000-2002
- Earth Day – 2000, 2003
- Duxbury Bay Day – 2000-present
- Gloucester Seafood Festival – 1997
- Whale Day with Boston Children's Museum – 2000
- Stellwagen Bank Sanctuary Lecture Series (with NEAQ) – 2002

- Steamship Portland Symposium with Portland Harbor Museum – 2003
- Sustainable Seas Expedition (SSE) and Sanctuary Weekend on Central Wharf – 1999

User Group Meetings

- Coastal Zone 99 Conference
- Boston Sea Rovers annual conferences 2000-present
- Massachusetts Marine Educators annual conferences 1994-present
- National Marine Educators conference 2001
- Massachusetts Environmental Education Society annual meetings 1998, 1999
- Fish Expos 2000, 2002, 2004
- Massachusetts Lobstermen's Association annual meetings 2002-present

Media and Outreach Opportunities

- Web page development and expansion – 1999-present
- Press releases and community calendar notices as needed (fax and e-mail distribution) 1994-present
- Interviews with local print, radio, TV and cable stations as needed – 1994-present
- PSA on right whales and the sanctuary with Boston University – 1996
- Kids on the Cape – free articles in publications (250,000 circulation) 2002-present
- Oceanography magazine article – 2000
- Cape Cod Travel Guide article – 2004
- GreenCape radio shows with WOMB in Provincetown (5-15 minute programs) – 1998
- Official Cape Cod Guidebook (Cape Cod Chamber of Commerce) 4-page article – 2004

Education Programs K-12 -Guest Lectures, workshops, programs, products

- “Lefty the Right Whale” traveling inflatable whale program for elementary school – 1997-present
- Talks at various high schools and middle schools – 1994-present
- MA Marine Educators annual High School Science Symposium 1994-present
- MA Maritime Academy annual High School Marine Science Symposium 1995-present
- Regional and National ROV High School/College Competitions – 2003
- Annual Marine Art Contest (with MME) – 1994-present
- Newspaper in Education Supplement on Water (with Boston Globe) – 1998
- Newspaper in Education Supplement on Saltwater Sanctuary (with Boston Globe) – 2003
- MimiFests for students (1500 students per year) with Barn School Trust and Brockton and Plymouth School Systems – 1995-1999
- SSE – web pages, logs, activity in teacher resource book with NGS – 1999
- Salt Water Studies Teacher Workshop (with Waquoit Bay National Estuarine Research Reserve [WBNERR]) – 2004
- Cape Cod Biodiversity college course (3-week marine component) – with Cape Cod Museum of Natural History – 1998-2001
- Stellwagen Bank Science and Education Symposium (with MME) – 1997
- Student Ocean Forum (with Coastal America and NEAQ) – 2002
- Student Ocean Forum (with NEAQ) – 2003-present

- Whaling to Watching Right Whale Education Package (book, video and poster) – with Gray’s Reef Sanctuary – 1997
- Heroes of the Planet -distance learning lecture series (subjects Sylvia Earle, Dick Wheeler, U.S. Coast Guard [USCG]) with Cape Cod Community College and Cape and Islands high schools
- Regional and National ROV Competition judging –2003-present
- Aquanaut Program with NURC–UConn, cruise support and on-shore education 1994-present

User Education Programs

- Fish Identification Course and Great Annual Fish Count for divers (with Reef Environmental Education Foundation [REEF] and Professional Association of Diving Instructors [PADI]) – 2002-present
- See a Spout boating safety around whales with International Wildlife Coalition –2001-present
- Whale Naming Workshop with the Whale Center of New England (WCNE), CCS and other cetacean research groups, 2001-present
- On-the-water Boater Education with Massachusetts Environmental Police (MEP) – 2001-present
- Stellwagen Bank Flotilla of the USCG Auxiliary/Operation Cetacean Shield and other joint SBNMS and USCG programs – 1996-present
- Whale watch Naturalist Training Program with NEAQ (workshops/lectures for naturalists) – 2000
- National Interpreter Certification Program (in cooperation with other sanctuaries, research groups and industry) – in development – 2002-present

APPENDIX POE.II – User Group Matrix

USER GROUP MATRIX

Group Characteristics / Usage	Whale Watch Boats	Recreational Boaters	Commercial Fishermen	Large Vessels	Divers	Science Research	Education Community (K-16)
Objectives (Goals)	Increase awareness; reduce impacts on Sanctuary resources; promote boating safety; build a constituency.	Increase awareness; reduce impacts on sanctuary resources; promote boating safety; build a constituency; prevent illegal dumping (littering); prevent illegal fishing.	Increase communication between Sanctuary and fishermen; reduce impacts on sanctuary resources; reduce entanglement; prevent illegal fishing; sustain fisheries.	Increase awareness (passengers, owners, operators); reduce impacts on sanctuary resources (water quality, debris).	Increase awareness; reduce impacts on sanctuary resources; provide opportunities for recreational diving (eg. shipwreck trail); build a constituency; assist scientific community in data collection.	Increase information sharing between SB and research groups.	Increase awareness; develop sense of stewardship; develop future constituency; filling the gap in local marine information.
Strategy	Improve communication between the Sanctuary and WW owners, captains and naturalists. Increase passenger knowledge through education of WW staff and development of educational products; assess quality and accuracy of WW interpretation.	Provide more and better information to boaters about Sanctuary resources; make public aware of enforcement programs; promote responsible recreational fishing and boating.	Provide better information to fishing community; develop new avenues for information exchange.	Develop communication channels between the Sanctuary and the cruise industry; increase passenger knowledge through education of owners and operators and development of educational products.	Improve diver knowledge about local species and cultural resources; instill a sense of stewardship; build the Sanctuary's underwater media library.	Become a central source of information about research in the Sanctuary and research focusing on Sanctuary-related species and issues.	Become a central source for information on the Sanctuary and Sanctuary resources for K-16 students and teachers.

USER GROUP MATRIX Continued...

Group Characteristics / Usage	Whale Watch Boats	Recreational Boaters	Commercial Fishermen	Large Vessels	Divers	Science Research	Education Community (K-16)
Tactics	Develop certification program for naturalists and includes mini-grants for continuing education and on-board education products/programs and other value-added programs that aid in interpretation; develop certification program for WW operations that provides value-added for participating companies; develop information sharing network with WW operators.	Develop Sanctuary materials for organizations teaching boating and navigation; coordinate with licensing agencies to provide information to licensees; publish articles in boating magazines; develop presence at regional and local boating shows; develop outreach material for supply marinas, docks, boat ramps, boating and fishing supply stores.	Develop weather kiosks in accessible locations; establish linkages to fishing associations and fishing publications; provide timely information to fishing newsletters; provide speakers to fishing forums and sponsor fishing-related symposia; bring exhibits to fishing conferences and shows.	Develop education products/programs for onboard dissemination; develop a memorandum of understanding with cruise lines to provide value added programs to both groups; Sanctuary exhibit at Black Falcon terminal.	Develop shipwreck trails; develop education programs on fish and invertebrate identification; expand the Sanctuary's dive team capabilities in photography and videography; develop underwater photo contest with Sea Rover.	Develop a web directory to research; offer databases of Sanctuary generated information; develop annotated bibliography for Sanctuary related research; offer biennial science/education conference to promote information exchange; requirement of all research projects to have an educational component.	Develop media galleries on website; develop curriculum focusing on Sanctuary science and monitoring, based on state and national standards; train educators in regional and national workshops; build educational component into research/exploration cruises; ROV competition; Ocean Science Bowl (training educators); educational whale watch; annual marine art contest (K-12).
Challenges	Fierce competition between companies; boats go where whales are - not necessarily in Sanctuary.	Many transient boaters pass through Sanctuary without residing in state or getting state license; sheer volume of boaters.	Distrust among fishing community of Sanctuary; difficulty in reaching active fishermen.	Large numbers of passengers.	Harsh diving environment.	Proprietary nature of data; unwillingness of scientists to disseminate information until post publication.	Independence of schools and the selection of curriculum.

Group Characteristics / Usage	Whale Watch Boats	Recreational Boaters	Commercial Fishermen	Large Vessels	Divers	Science Research	Education Community (K-16)
Media	Web-based education program; workshops for naturalists and captains; printed literature for passengers; educational whalewatch curriculum for schools; cybertracker program for scientists and students; web publicity. Develop media lists that target travel writers, enviro writers, naturalist columnists, local broadcast media. Produce stock photo gallery, B-roll video, sound clip library, seasonal newsletters, certificates. Incorporate Sanctuary logo; provide information that WW companies are able to incorporate in their advertising literature.	CD-ROM/slides/overheads with scripts for boating courses; videos for courses or cable TV; PSAs; exhibits at boat shows; literature in license packages; email lists; signs at marinas and boat ramps; articles in trade publications.	Articles in fishing magazines and newsletters; email list serves; signs at harbormaster offices, fuel docks, fish piers; exhibits at MLA annual conference, FishExpo, etc.	Videos for shipboard TV; on-board educational products/programs; signage; Sanctuary certificates; cruise publications.	Educational materials at dive shops/shows; web-based material, workshops at dive clubs; exhibits at Sea Rovers and other shows; speaker programs.	Web; fact sheets; workshops/conference; list serves; articles in science and education publications.	Web; workshops; printed educational literature.

USER GROUP MATRIX Continued...

Group Characteristics / Usage	Whale Watch Boats	Recreational Boaters	Commercial Fishermen	Large Vessels	Divers	Science Research	Education Community (K-16)
Partners	Whalewatch companies; cetacean research groups; NGOs focusing on endangered species (IFAW, IWC); NMFS.	MEP; Power Squadrons, CG Auxiliary; NMFS; NGOs (IWC, IFAW); Mass Marine Trades Assoc; marinas and boatyard owners; harbormasters.	MLA, CC Hook Fishermen's Assoc., NMFS; FEPMC; MA DMF; Gill Net Assoc; Mobile Gear	ICCL; MassPort; NGOs	PADI; MAUI; REEF; MIT SeaGrant; MassDMF; Sanctuary volunteer dive team.	WHOI, USGS, BU, MIT, Harvard, UMaine, UMass, NMFS, etc...	Mass Marine Educators (MME); MASS; MA Dept. of Ed.; Mass Teacher's Association; Teaching Colleges; Universities.
Evaluation Results	25% certification rate of companies; captains and naturalists by year 2; 75% certification rate by year 5; interviews with captains; sanctuary awareness rate of 75% of passengers based on WW surveys by NGO partners by year 5.	Sanctuary information in all boater registration mailings by year 3; Sanctuary component in all boater education programs offered by CG Auxiliary, Power Squadrons and MEP by year 5; Sanctuary presence at Boston Boat Show every year and other shows as deemed necessary.	Sanctuary attendance at all regional fishing conferences by year 2; weather kiosks at 1 fish pier by year 2; 5 weather kiosks in place by year 5.	2 cruise lines by year two; 50% of the industry in 5 years.	Establish shipwreck trail; train 100 divers per year for the next five years for fish and invertebrate ID.	Website up within one year with a directory; biennial conference to start in year two.	Establish 6th grade whale watch unit and adopted by 5 school systems by year 2; increase entries into the annual marine art contest by 10% each year.